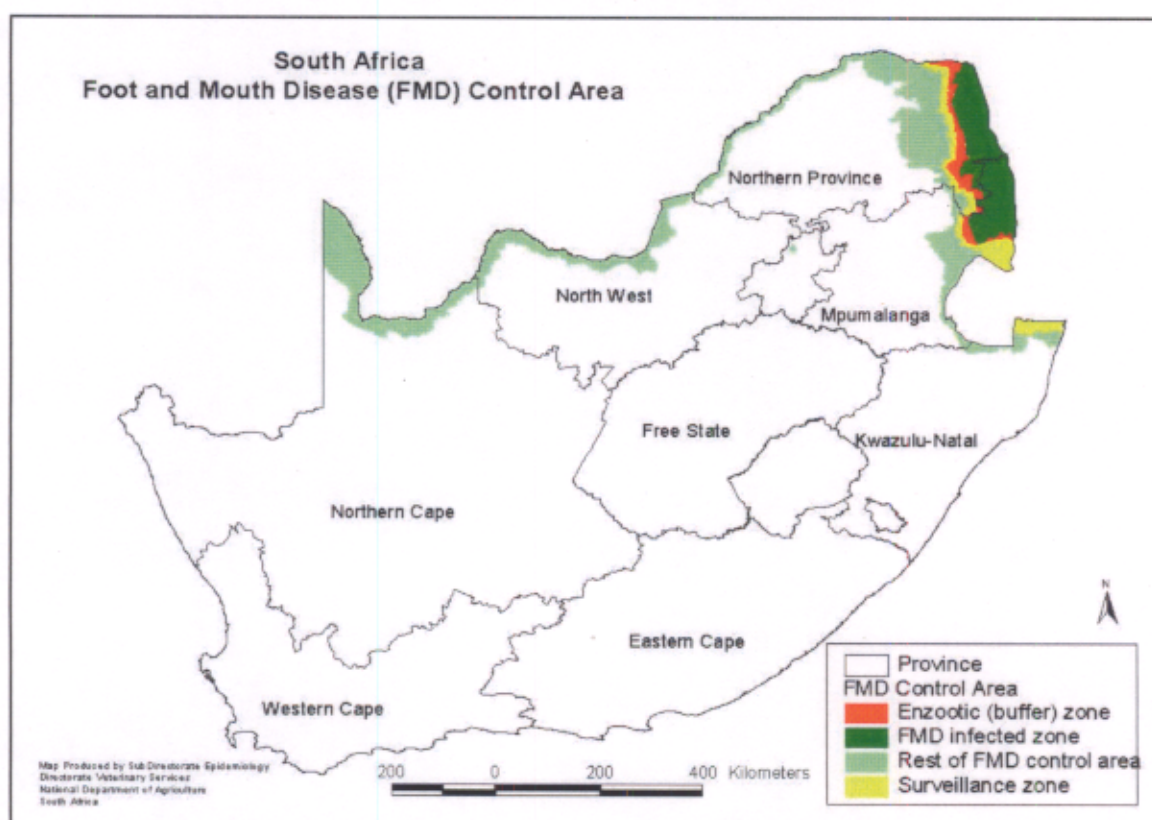


# SUMMARY REPORT ON THE OUTBREAK OF FOOT AND MOUTH DISEASE IN KWAZULU-NATAL, MPUMALANGA AND THE NORTHERN PROVINCE, SOUTH AFRICA

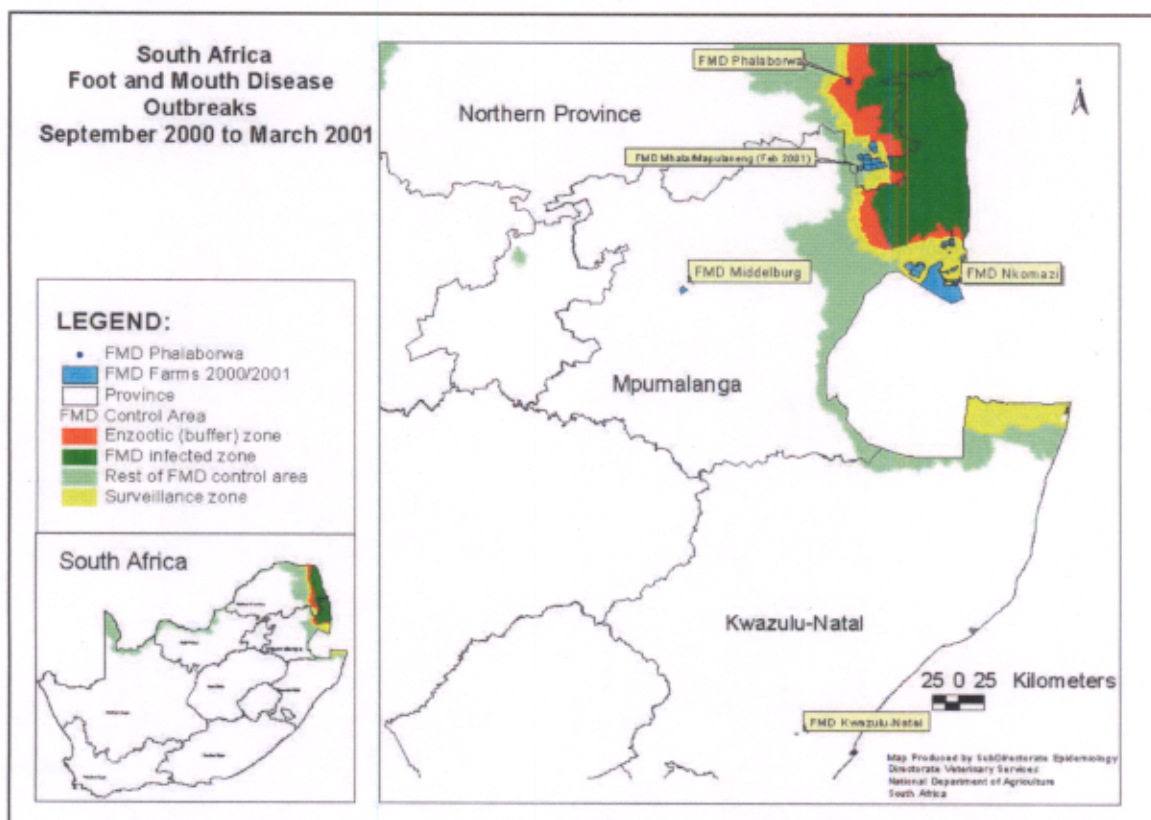
28 FEBRUARY 2001

## FOOT AND MOUTH DISEASE (FMD) CONTROLLED AREA OF SOUTH AFRICA:



Foot and mouth disease (FMD) is a controlled disease in South Africa. It is found in the Kruger National Park and surrounding game reserves, which is a declared FMD – controlled area. Before the outbreaks of FMD in South Africa in 2000, the rest of South Africa was an FMD – free zone without vaccination (declared by the World Animal Health Organisation (OIE) in 1995). The last outbreak of FMD, prior to 2000, in the free – zone was in 1957.





## KWAZULU-NATAL

### A. INTRODUCTION

KwaZulu-Natal is one of the 9 provinces of South Africa located in the eastern part of the country. Camperdown is one of the districts falling under the State Veterinary area of Pietermaritzburg, within the KwaZulu-Natal Province (see maps). The animal health and veterinary public health services in the province are supported by a well-equipped government veterinary laboratory at Allerton, in Pietermaritzburg, KwaZulu-Natal and the Onderstepoort Veterinary Institute (OVI) – Agricultural Research Council (ARC) Laboratory in Pretoria. All laboratory diagnosis for exotic diseases is done at this OVI – ARC Veterinary Laboratory.

### B. SEQUENCE OF EVENTS

On the 12<sup>th</sup> of September 2000, the initial outbreak of foot-and-mouth disease (FMD) was detected in pigs at a farm in the Camperdown magisterial district of KwaZulu-Natal. Infected animals were confirmed positive on two adjacent farms in that vicinity and the stamping out policy (culling) was instituted. The virus was serotyped as FMD Type O, which is an exotic strain to South Africa. It was introduced into the country via pig swill from a passing ship obtained by the farmer at the Durban Harbour. All cloven-hoofed animals in a 3km zone were



culled in order to create a buffer zone. A larger area around this initial point of infection was declared a high-risk area.

On the 10<sup>th</sup> October 2000, intensive surveillance measures detected an extension of the outbreak in cattle at a point 3-4km north of the original epicentre. Intensive stamping out was applied immediately on the affected farm. The area surrounding this particular farm on the top of a hill was completely free of livestock and thus presented a natural buffer zone.

A third extension of the outbreak was discovered through the intensive surveillance measures on the 23<sup>rd</sup> October 2000 at a point approximately 8km to the southeast of the original epicentre. Total eradication of the herd of 36 cattle in which the infection was diagnosed, was instituted immediately and serosurveillance and veterinary inspections were stepped up in the surrounding area.

The focus of infection was situated within a larger area that contained a number of commercial farms but predominately communal farming with free movement of animals and people throughout. It was then decided that areas with a communal farming component have to be defined and dealt with as a single unit. A radical culling program was implemented around this infection throughout the whole quarantine area to create the customary buffer zone to protect the animals in the surrounding areas. Due to the fact that culling of the communal cattle was resulting in cattle owners attempting to hide their animals, and the concern of the disease spreading further, it was decided at this point, to institute a limited vaccination program instead of stamping out.

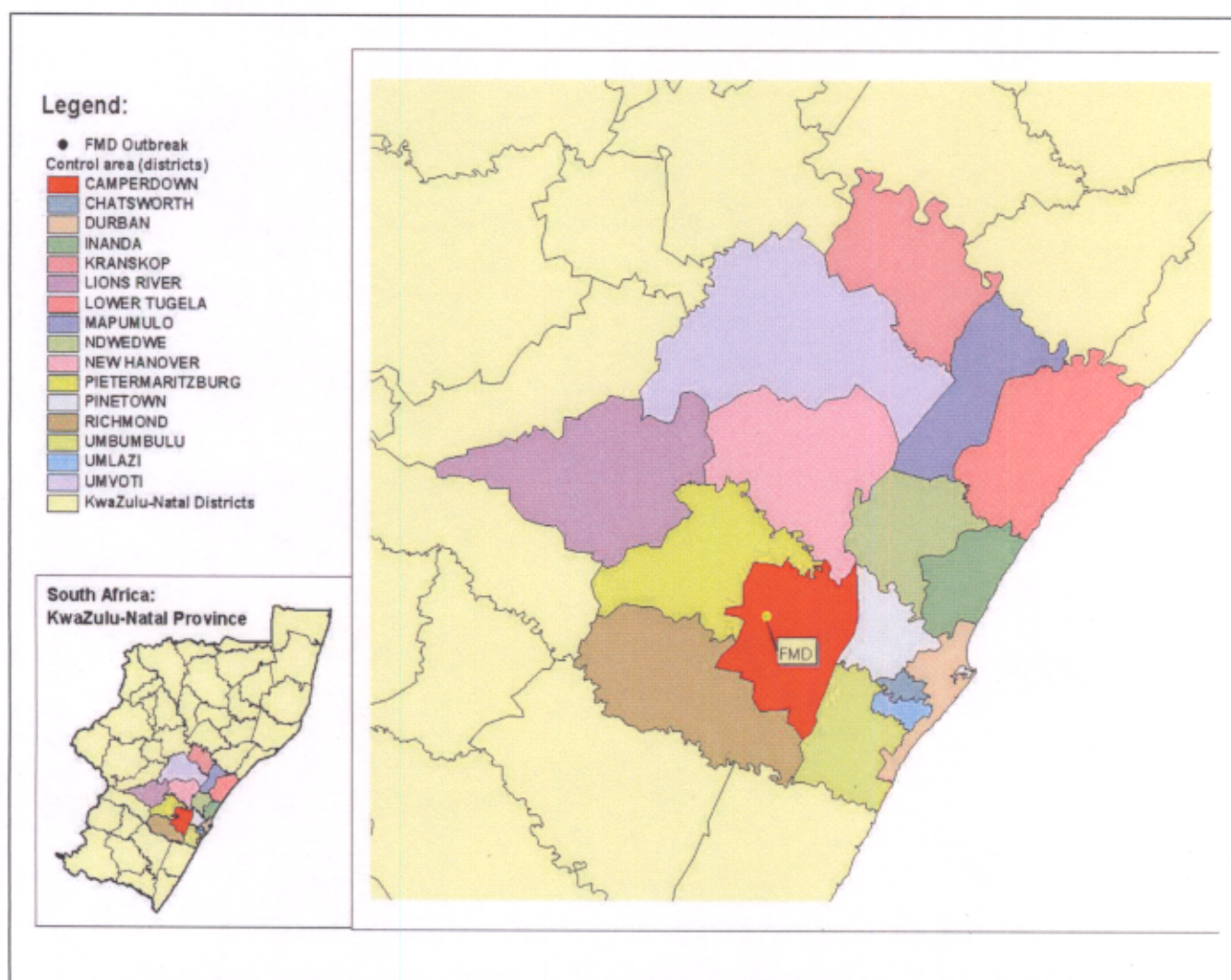
The last clinically affected animals were reported on the 5<sup>th</sup> of November 2000 in the communal area of Mpumalanga, KwaZulu-Natal.

### **C. CONTROL MEASURES:**

Strict veterinary movement control protocols and intensive surveillance measures were in place throughout all FMD controlled districts which included 16 magisterial districts in KwaZulu-Natal. Defence force personnel and police officers manned the roadblocks together with the personnel from the Directorate of Veterinary Services to enforce the movement protocols. A quarantine zone with a 15km radius was defined around all four high-risk areas.



## FOOT AND MOUTH DISEASE CONTROLLED AREA IN KWAZULU-NATAL PROVINCE:



No movements of cloven-hoofed animals were permitted within the quarantine zone, except for animals within the areas in which the stamping out of all cloven-hoofed animals had started. Intensive surveillance measures (inspection of animals and serological testing) were taking place within the 15km quarantine zone as well as within the 15km surveillance zone surrounding it. Cloven hoofed animals could only be moved out of the 15km surveillance zone if they were destined for an abattoir, provided they had been inspected and had a veterinary movement permit.

Any products and genetic material of cloven-hoofed animals, as well as hay and manure was subject to similar movement restrictions.

Most of the culling had taken place at quarantine camps with strict access control and disinfecting procedures for all personnel leaving the site. Animals were



brought by the public and rounded up by the South African Defense Force. After being valued for compensation purposes, the animals were taken to trenches, culled, put into the trenches and covered with a viracidal compound and quicklime before being buried under more than 1.5m of soil. The burial sites were covered by razor wire and heavily guarded so that there would be no chance of it being dug up again.

A number of samples were collected from the KwaZulu-Natal area and tested again at the Onderstepoort Veterinary Institute and all turned out to be negative. The same samples were then sent to Pirbright in the United Kingdom for confirmation. These samples originated from cattle outside the quarantine area. While the results were being awaited, it was decided to start an intensive vaccination campaign of all cattle, sheep and goats in the quarantine zone.

Both OVI and Pirbright confirmed that the results of the FMD tests were negative. This meant that the disease was still contained within the original 10km radius that was identified as the critical control area. Vaccination of all cattle and small stock in this area is continuing. All roadblocks were lifted on the 26<sup>th</sup> January 2001. Movement control measures remain in force and spot checks are being made.

For the next two years, every farmer (commercial or communal) within the magisterial district of Camperdown must maintain an accurate and updated livestock register. Strict movement and marketing control is maintained within the area with continuation of sero-surveillance. This two-year period is mandatory in terms of the international norms and standards set by the OIE regulations. These registers are checked every 14 days against animals on the farms in the quarantine area and every 28 days against the animals on the farms within the surveillance areas.

**D. VACCINATION POLICY**

The strategies of the policy are (i) vaccination, which offers the only means of protecting domestic cloven-hoofed animals against FMD, and (ii) routine surveillance by means of serological testing of blood samples to monitor the disease status in the area.

**D1. VACCINATION**

Vaccination data up to the 28<sup>th</sup> of February 2001:

	CATTLE	SHEEP	GOATS
Animals vaccinated	9724	1220	1348



## D2. SURVEILLANCE

Surveillance operations in the area are in full swing and all results so far are negative.

Surveillance data up to the 28<sup>th</sup> of February 2001:

	CATTLE	PIGS	SHEEP	GOATS
Total number of animals inspected	224 777	124 964	26 656	25 095
Total number of animals tested serologically	18 986	444	2 654	3 144

	COMMERCIAL AREA	COMMUNAL AREA
Number of farms visited	14 347	270 (driptanks)

## MPUMALANGA

### A. INTRODUCTION

A diagnosis of Foot and Mouth Disease was made on the 30<sup>th</sup> of November 2000 in cattle at a feedlot in the Middelburg district in Mpumalanga Province. This outbreak was serotyped and sequenced at the Exotic Disease Laboratory Onderstepoort Veterinary Institute, Agricultural Research Council (ED-OVI-ARC), as SAT1 virus originating from the southern part of the Kruger National Park. Trace back investigations from the feedlot infection revealed that the disease had originated in the Nkomazi area, between the southern borders of the KNP and the northeast border of Swaziland. The feedlot in Middelburg was a very isolated location, which made containment of the disease easier than in KwaZulu-Natal. The Nkomazi area, however, was also largely communal. This area is within the traditional FMD – control area of South Africa, which also made containment of the disease easier.

### B. MIDDELBURG:

The disease remained localised at the feedlot, mainly due to the immediate and strict control measures that were instituted at the feedlot. An intensive vaccination program was implemented. This entailed the vaccination of all animals at the feedlot. The vaccination was repeated 2 weeks later and controlled slaughter of all animals at the feedlot was begun on the 15<sup>th</sup> of January 2001. No new clinical cases have been reported from the feedlot since the 14<sup>th</sup> of December 2000.

Roadblocks in the area were raised on the 12<sup>th</sup> of January 2001, following intensive sero-surveillance in the quarantine and surveillance area around the







Cattle and small stock in the controlled area adjoining the Kruger National Park are normally vaccinated twice a year for FMD.

#### D. VACCINATION POLICY

##### D1. VACCINATION

The initial and follow-up vaccination was completed at the feedlot in the Middelburg district by the end of December 2000. The first round of vaccinations in the Nkomazi area has almost been completed, and the second round of vaccinations commenced on the 8<sup>th</sup> of January 2001 and finished at the end of January 2001.

Vaccination data up to the 28<sup>th</sup> of February 2001:

AREA	CATTLE	PIGS	SHEEP	GOATS
Middelburg district	*32062	48376	2445	0
Nkomazi Commercial area	• 13 023	0	191	70
Nkomazi Communal area	‡ 93 461	0	0	1383

\*16 031 cattle were vaccinated twice with an interval of 14 days between vaccinations, in the feedlot.

• 6 849 cattle were vaccinated during the first round of vaccinations, and 6 174 cattle during the second round of vaccinations

‡ 48 735 cattle were vaccinated during the first round of vaccinations, and 44 726 cattle during the second round of vaccinations

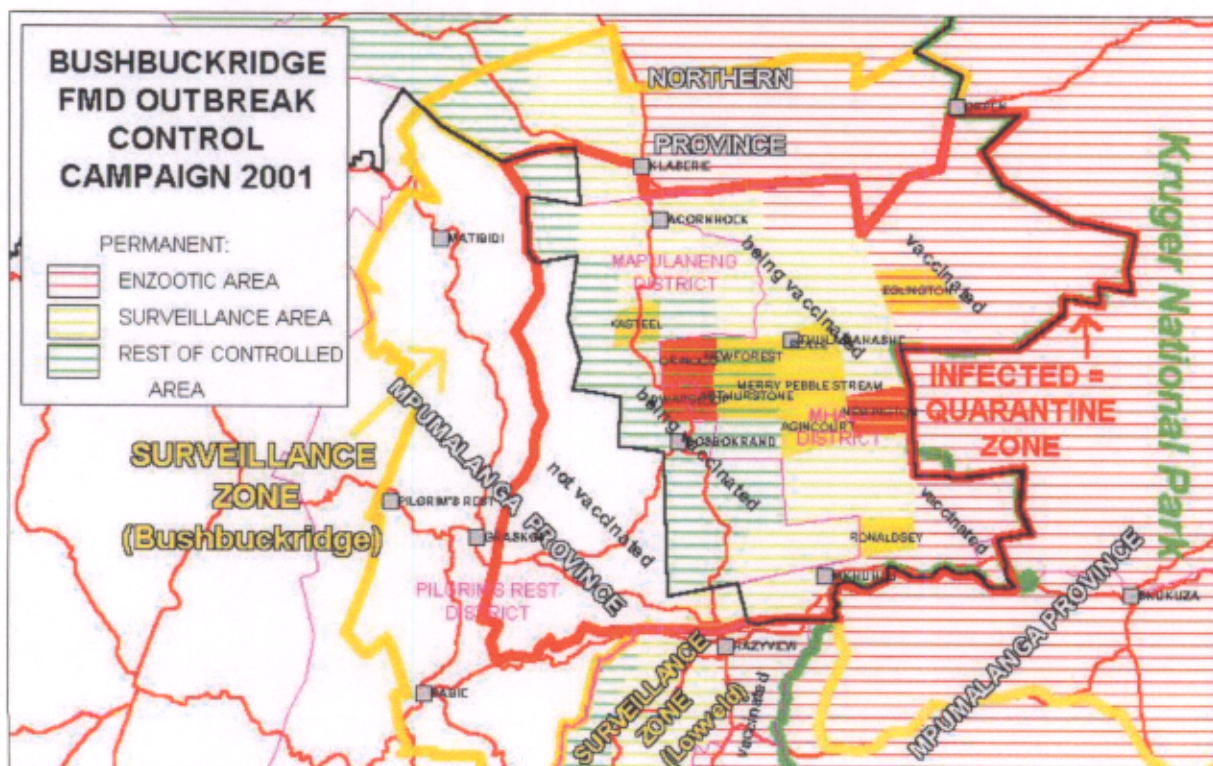
##### D2. SURVEILLANCE

Surveillance data up to the 28<sup>th</sup> of February 2001:

AREA	INSPECTIONS		
	CATTLE	PIGS	SMALL STOCK
Middelburg district	1 360 506	2 925 037	104 940
Nkomazi Commercial area	15 168	0	261
Nkomazi Communal area	113 143	0	1 384

Continuing surveillance is being performed in the Nelspruit State Veterinary area, which entails the inspection and sampling of farms in the districts of White River, Nelspruit, KaMhlushwa, Nsikazi and Barberton. The current 7-day inspections in the Nsikazi FMD Control Area are being intensified and samples are being taken from any suspicious animals. Inspections of diptanks in the Nkomazi area will continue. The State Veterinarian at Skukuza, in the Kruger National Park (KNP) will continue with FMD surveillance of impala in the southern part of the KNP bordering the Crocodile River. No further clinical cases were detected since the







## B. VACCINATION POLICY

### B1. VACCINATION

Vaccination of cattle started on the 5<sup>th</sup> of February 2001, and vaccination of small stock on the 19<sup>th</sup> of February 2001. All cattle and small stock have been subjected to the first round of initial vaccination with almost completion of the second round of vaccination with the trivalent SAT vaccine.

Vaccination data until the 28<sup>th</sup> of February 2001:

	CATTLE	SMALL STOCK
Animals vaccinated	76983	16919

These animals were vaccinated during the first round of vaccinations.

### B2. SURVEILLANCE

Surveillance operations in the area are in full swing.

Surveillance data until the 28<sup>th</sup> of February 2001:

	CATTLE	SMALL STOCK
Animals inspected	144276	11549
Diptanks inspected	292	101

## CONCLUSION

The South African Veterinary Services spent a large portion of its time, resources and budget during the past 6 months to combat the outbreaks of foot and mouth disease in KwaZulu-Natal, Mpumalanga and the Northern Province.. A major effort has been put in to control these outbreaks. At this stage, it seems as if the outbreaks in KwaZulu-Natal, Mpumalanga and the Northern Province are under control, and all the staff involved in controlling, combating and communicating these outbreaks are to be complimented on work well done.

An initiative to increase the human resource capacity within especially the communal grazing areas within the country is currently receiving urgent attention at a high Governmental decision-making level.

The intention is to apply for zoning for FMD without vaccination for the rest of the country except those areas in KwaZulu-Natal (Camperdown), Nkomazi in Mpumalanga and the area in Northern Province currently under restriction and



the areas previously excluded from zoning status. This submission will be made for the FMD Commission meeting of the OIE in September this year. We are in the process to de-list the 16 districts in KwaZulu-Natal from FMD control and only have the Camperdown district remained as a foot and mouth disease control area in the previously free zone of KwaZulu-Natal.